ABSTRACT OF THE DISCLOSURE

An operator-free and fully automated semiconductor inspection system with high throughput is realized. All conditions required for capturing and inspection are generated from design information such as CAD data. In order to perform actual inspection under the conditions, a semiconductor inspection system is composed of a navigation system for generating all the conditions required for capturing and inspection from the design information and a scanning electron microscope system for actually performing capturing and inspection. Moreover, in the case of performing a matching process between designed data and a SEM image, deformed parts are corrected by use of edge information in accordance with multiple directions and smoothing thereof. Furthermore, a SEM image corresponding to a detected position is re-registered as a template, and the matching process is thereby performed.